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This monograph describes a pilot kindergarten program conducted in Fairfax County (Virginia) schools in 1967-68 and supervised by the Center for Effecting Educational Change. The stated purpose of the pilot kindergarten program was to develop demonstration kindergarten classes at seven selected Fairfax County schools in order to obtain information and make recommendations for implementing the program on a countrywide basis during 1968-69. This monograph is a result of the acquisition of such information and the making of such recommendations. The contents of the monograph are divided into two sections: (1) the program and (2) the evaluation. Eleven specific objectives of the program are delineated. Evaluation of the program took the form of measuring the degree of attainment of these objectives as reflected in the tests, inventories, surveys, and questionnaires administered to the pupils and teachers. The evaluation section treats, in brief, each of the eleven program objectives. Included in the document are statistical charts of pupil performance results on the Metropolitan Readiness Test and the Wide Range Achievement Test. (WD)

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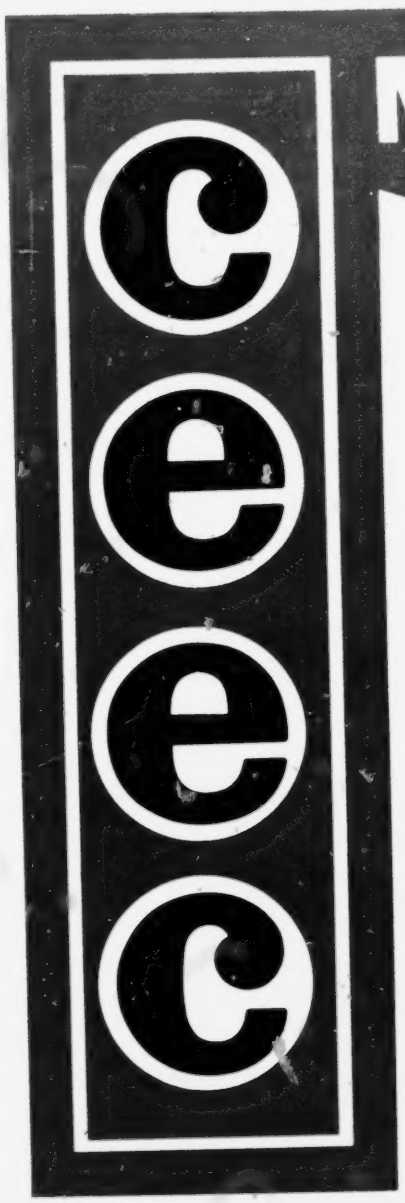

MONOGRAPH
II

The Change Process In Action: Kindergarten

PS001596

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PREFACE

The Center for Effecting Educational Change (CEEC) is a planning, research and development arm of the Fairfax County Schools. It began operations in July, 1967, under Title III of the Elementary and Secondary Education Act of 1965. Its overriding purpose is to study the systematic change procedure in education as the procedure is applied in adding new programs, deleting non-productive old programs, or altering existing programs to meet revised goals. Its functions are to:

develop and initiate a systematic change procedure for effecting and evaluating educational change in the county;

evaluate the implementation of new and/or revised programs in various areas through an educational team approach;

provide special services related to educational innovation and evaluation to teachers and other professional staff members of public and non-public schools;

serve as an exemplary center for visitation, observation, and study by educators and other interested individuals.

CEEC's activities developed from a basic survey conducted in the spring of 1967 of the needs and interests of Fairfax County community schools and pupils. The survey focused on kindergarten, child study, fine and performing arts, and educational technology as areas of primary concern. It also spotlighted an even greater concern: the need to introduce and implement any change in a systematic fashion.

The pilot kindergarten program was launched in the fall of 1967. Child study and fine and performing arts programs underwent need and feasibility studies during 1967-68 and began pilot programs with the fall, 1968, school semester. Educational technology is undergoing need and feasibility studies this school year.

Dorsey Baynham, Editor

THE CHANGE PROCESS IN ACTION: KINDERGARTEN

(An abridged version of the
Kindergarten Evaluation Report
with statistical pages added)

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SECTION I - THE PROGRAM

INTRODUCTION AND SUMMARY OF CONCLUSIONS

This monograph describes a pilot kindergarten program supervised by the Center for Effecting Educational Change (CEEC) in 1967-68. The program's major objective was to serve as a vehicle for implementing kindergarten on a countywide basis. To this end, CEEC was to provide specific research information to the Fairfax Schools' Department of Instruction, which would then have the responsibility of accepting, modifying, or rejecting the philosophy and procedures developed from the information.

The program's secondary objective, in keeping with the Title III concept, was to provide information to other school systems involved in planning or implementing a kindergarten program.

Research performed by the Center for Effecting Educational Change (CEEC) is based on the philosophy of a systematic change procedure. A systematic change procedure calls for continuing evaluation, adaptations, and implementation. On this basis, it follows that the demonstration kindergarten program could not — nor was it expected to — produce definitive answers concerning all five-year-olds in all school situations in Fairfax County. As delineated in this report, however, the program did produce findings which clearly point to areas needing further review and analysis. It also led to the following general conclusions and recommendations for implementing the kindergarten program:

- Conclusions derived from the findings herein reported should serve as baseline data for both continued program development and further research. To this end, a committee of elementary school personnel should be formed to examine these data and to formulate guidelines for future kindergarten programs as well as for effective articulation in the primary school program. The examination would be profitably directed toward the items listed immediately below.

- The kindergarten program does not produce exactly similar effects for all children. Teacher attitudes and children's experience, interest, and varying socio-economic levels are important variables contributing to a pupil's achievement in various areas. It is therefore essential that the kindergarten program be flexible in order to meet teacher needs and the varying cognitive, social, emotional, and physical needs of the children. Teaching and evaluation strategies should be examined to determine effective ways to individualize the kindergarten program. Such an examination would include —

  new ways of organizing for teaching,

  new ways of assessing both children and the program, through, for example,

  video tapes of interaction between teacher and children in the classroom

  interdisciplinary team approach (teacher, principal, supervisor, psychologist) in planning and evaluating the teaching-learning process.

- Demonstration centers should be identified and organized for prospective teachers, aides, and other interested persons. Demonstration teachers can and should assist with in-service activities on a practical level. In addition, kindergarten teachers should have the opportunity and time to observe in exemplary classrooms.

- Further study of the social, emotional, physical, and intellectual development of the five-year-old in Fairfax County should be continued and refined.

- The identification of appropriate learnings and activities, developed on a limited basis in the pilot program, should be continued and expanded.

- Specific content areas in the kindergarten curriculum should be studied in depth, with emphasis upon the development of materials for math, social studies, language arts, and music.

- The in-service program of both kindergarten teachers and aides should be studied, expanded, and evaluated.

- A study of the function of teacher aides should be continued and refined.

- Guidelines should be formulated concerning home-school relations, with a clarification of the role, in this respect, of all personnel.

- The barriers identified by the CEEC planning supervisor (see page 6), and by principals, teachers, and aides should be carefully examined to eliminate as many as possible.

- Because instruments for proficient evaluation of the achievement of kindergarten children are so few, further identification and development of evaluative instruments for the kindergarten should be given priority.

- Appropriate guidelines for responsibilities, functions, and authority should be clearly established for all personnel or departments involved in programs serving as pilots for later system-wide implementation.

- A follow-up study of the 1967-68 kindergarten children should be made during the 1968-69 school year. The purpose of the study would be to compare their achievement and adjustment with the achievement and adjustment of children who have had no kindergarten experience. It is recommended that the Department of Instruction and the Research Department of the Fairfax County schools initiate this study.

RATIONALE

If it be true, as research and early childhood specialists indicate, that the very early years are indeed the most crucial, then early educational experiences should be comprehensive. The kindergarten program of the past, which emphasized emotional and social development, should be re-shaped to meet society's needs. The findings of recent research should be incorporated into curriculum content and the role of the kindergarten teacher be re-shaped.

With these factors in mind, a supporting rationale for kindergarten first advances the truism that five-year-olds learn and should be taught in settings and ways different from those of the primary grades. The young child responds constructively to a school setting which offers sensory and manipulatory experiences, opportunities for free verbal and physical expression, freedom to explore and to respond to his environment, and the guidance of a teacher who knows when and how to intervene in this learning process.

The five-year-old's levels of maturity — emotional, physical, social, and cognitive — do not equip him for a program which involves extended periods of sitting and the use of the secondary skills related to reading and writing. Rather than depending primarily upon books or workbooks to teach skills and subject matter concepts, the teacher should plan activities involving first-hand learnings. The young child learns more readily, easily, and with greater permanency when he, himself, is free to manipulate instructional equipment and materials in solving problems.

PURPOSE OF STUDY

The major purpose of the pilot kindergarten program was to develop demonstration kindergarten classes at seven selected schools in Fairfax County which would yield information and recommendations for the implementation of a county-wide program in the 1968-69 school year. To meet this overall purpose, a set of eleven specific objectives was drawn up, as follows:

1. To observe characteristics of Fairfax County five-year-old children
2. To develop a broad outline in the academic and non-academic learnings
3. To determine appropriate activities for kindergarten children
4. To determine ways to individualize instruction at the kindergarten level
5. To examine the effectiveness of varied instructional and diagnostic materials
6. To determine the function of teacher aides and develop a system of in-service training for them
7. To assist parents in understanding the meaning of the kindergarten program and activities
8. To serve as demonstration centers for prospective teachers, aides, and other interested persons
9. To develop management routines
10. To develop alternate plans for evaluation
11. To study alternate patterns of class size

The objectives of the program served as a framework for the research study. Evaluation took the form of measuring the degree of attainment of the objectives by the demonstration program. (It should be pointed out, however, that the research findings included not only data pertaining to the objectives directly but also additional data, e.g., surveys of the perceptions of kindergarten personnel and an inventory of factors affecting the program.) The availability of evaluative instruments designed for kindergarten children is limited and is a deterring factor in assessing the progress of children in a kindergarten program. In the study here reported, however, appropriate instruments were selected from existing instruments when available or instruments designed by the CEEC staff.

The research study involved a total population of approximately 320 kindergarten children and the seven teachers, seven teachers' aides, and principals of Centreville, Edsall Park, Hollin Meadows, Lewinsville, Springfield Estates, Walnut Hill, and Westmore elementary schools. The study did

not include a control group because the total program was made up of only the seven schools and it did not seem feasible to secure a control group in another public school system or in private schools.

Both standardized and non-standardized tests, inventories, surveys, and questionnaires were used to obtain information relating to achievement, readiness, auditory discrimination and articulation, and the behavior of pupils. In addition, information on instructional materials, role of the teacher aide, perceptions of teachers and principals regarding the kindergarten program and other related areas was obtained.

Procedures developed by the CEEC staff were designed not only to elicit and record data in an organized fashion but also to delineate selected factors. Objectivity was sought through use of instruments which could be cross-checked. Reliability was obtained by pre- and post-testing with standardized tests; orientation procedures with teachers and aides prior to initiation of evaluation; and CEEC staff conferences and planning sessions following visits to various kindergarten classes. To maintain a high level of reliability in planning, a team approach utilizing the talents of the CEEC kindergarten planning coordinator, psychologists, and an evaluation specialist, as well as other school personnel, was used. Standardized test data were reproduced on data cards for storage and a 360/30 computer was utilized to process and analyze data. The remainder of the data from survey and questionnaire instruments was processed, analyzed, and interpreted by the evaluation specialist, the kindergarten planning supervisor, and two research assistants.

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BARRIERS ENCOUNTERED

Various barriers are attendant to the introduction of any new school program. Some barriers may originate in the identification of program goals and in the value attached to those goals by staff members responsible for planning, supervising, and coordinating a new project. In such instances, what is perceived by some personnel as a barrier to new approaches and procedures might not be similarly perceived by others. These are truisms upon which this section of this report must rest.

When the Center for Effecting Educational Change was funded in late July, 1967, kindergarten was accepted as one of the three main study areas. The planning supervisor for kindergarten was a member of CEEC. While a general outline of the role of this CEEC staff member had been written, it was expected that a clearer delineation of the role would evolve during the first year of the Center's existence. The concept of a CEEC study area, itself, involved a three-year period, with the first year spent in study, research, and planning, the second year in pilot projects, and the third year in evaluation.

At the time the School Board adopted the staff recommendation to establish demonstration kindergarten classes, the original kindergarten study committee had made plans of a general nature, recommending several approaches to implementation, but had not provided precise operational guidelines. However, with only one year before the opening date of kindergarten classes in all elementary schools, pilot classes were a necessity. The CEEC staff, therefore, had to assume that the kindergarten project was in the pilot stage — or second year of the three-year period conceptualized for study areas.

Thus, there were two built-in barriers at the time the planning supervisor assumed her duties: (1) an evolving role only generally defined and (2) a time factor which could not accommodate the planning conceptualized by the systematic change procedure of a CEEC study area. These barriers were related, as the following paragraphs will describe, and one tended to feed into and complicate the other.

Various phases of planning for implementation of kindergarten, county-wide, involved all departments of the system's central office staff. It developed that personnel in each department had their own concepts of the responsibility, expertise, and especially the authority of the planning supervisor. Her authority to initiate planning was assumed in some departments and questioned in others. These varied expectations created an equally varied pattern of operations and procedures by the departments involved. And when a specific situation involved more than one department the difficulties were compounded and the time factor became increasingly apparent.

Time was a critical element when the deadlines of one department had to be met but several departments were involved in a related decision. Since many departments are not in the central office building, the planning supervisor frequently resorted to "walking through" a memorandum. The time factor was doubly compounded when departments disagreed on the form or content of a decision and return visits to several departments had to be made.

Time for planning was insufficient in the establishment of the demonstration classrooms. Less than one month was available for planning, organizing, selecting, and working out the various instructional and managerial details necessary for opening the classes.

Time was also a problem in attempts by the planning supervisor to perform the tasks outlined in her general job description. These included organizing and supervising the demonstration classrooms, evaluating the latter program, and planning for 1968-69. Organizing and supervising the demonstration classrooms and planning for 1968-69 encompassed far more than one person could realistically manage. The third area, evaluation, was shared by CEEC staff members. Recognition by the Department of Instruction of the scope of the CEEC planning supervisor's task led to shifting responsibility for the curriculum guide from CEEC back to the Department.

Time was again the culprit in erecting another kind of barrier. In organizing the planning for 1968-69, a time-line, using a systems approach, was drawn up. The time-line scheduled deadlines for critical tasks — hiring personnel, meeting budget considerations, ordering equipment, completing the curriculum guide, and others — and identified personnel or departments responsible for each task. Ideally, the time-line should have been the product of conferences and cooperative planning by the Director of CEEC, the planning supervisor, and personnel in the various departments. Such an approach, however, would have required more time than was available, particularly of the two people who would have been involved in each conference. Therefore, a different approach was used. The Director of CEEC and the planning supervisor drew up the calendar, identifying the various tasks and the departments responsible for each, setting approximate completion dates, and specifying desirable lead time for each task.

The time-line instrument, itself, then acted as a barrier for CEEC because it seemed to some departments that CEEC was assigning responsibilities to them. To avoid just this kind of reaction, a model of the time-line instrument had been sent to those involved with a request for comments, revisions, and suggestions. Few were forthcoming. The instrument thereafter served more as a guideline for the CEEC planning supervisor than as an operational aide used by all departments.

Turning from the factor of time to the human element, while no one person could be identified as a barrier, certain modes of operation by persons in some situations acted as barriers. These modes of operation stemmed directly from a variety of factors: a tendency to resist change procedures, an inability to be open to or to accept new ideas, a lack of knowledge about the kindergarten child and of desirable curriculum content for the kindergarten program, and, finally, feelings of inadequacy or a sense of threat — all were identified as contributing to the erection of barriers.

Efforts by the CEEC planning supervisor to perform her role as she perceived it became a barrier at times. The barrier was particularly evident when her perception of the role did not conform with that of personnel in other departments. Attempts to carry out all of the tasks identified by various departments and by the role outline as well, however, were physically impossible.

Finally, inadequate secretarial help was an occasional but very real hindrance. Tasks which needed to be done included typing stencils, running them off, and collating reports; typing numerous and necessarily individual letters to persons observing in the demonstration classrooms; answering telephone queries; taking dictation for memos and letters; and keeping the files in order. Having to share a secretary's time at times prevented efficient performance of a task.

In summary, the barriers identified during the year have resulted from role delineation (or lack of it), limited time, modes of operations, and not enough secretarial help during particularly busy periods. It would be impossible to rate these in any way; each was a hindering factor and each detracted from the kindergarten program.

PLANNING AND ORGANIZATION: THE CHRONOLOGY

In planning for kindergarten as an integral part of the Fairfax County Public Schools, the School Board in August, 1967, accepted a staff recommendation that seven demonstration classes be established under a plan calling for: a teacher and an aide in each classroom, 20-25 children per session, and two sessions of 2-1/2-3 hours each per day.

The following chronology, offered as guidance to other school systems confronted by the need to implement a kindergarten program, lists supervisory and administrative activities and planning in Fairfax County during 1967-68:

Demonstration Classes

Basic equipment and materials were identified and ordered.

Certain experimental equipment was ordered and distributed among the seven classrooms; distribution lists were made out by CEEC supervisor.

CEEC administrative assistant checked all invoices of equipment and worked out its distribution with warehouse personnel.

Objectives of the classes were formulated.

An evaluation design was drawn up.

Director of Elementary Personnel and CEEC planning supervisor interviewed and selected the seven teachers from group which included:

- experienced teachers with at least two years teaching experience, some teachers with Head Start experience, some with kindergarten teaching experience, and some with no kindergarten teaching experience;
- teachers who had been rated excellent or superior in past experience;
- teachers who seemed open to trying new materials or approaches to teaching;
- teachers who were willing to be observed frequently during their teaching.

Personnel Department interviewed and selected aides for the demonstration classrooms from groups which included:

- persons with previous experience with young children, i.e., in nursery schools, private kindergarten, and church schools;
- persons with two or more years of college or its equivalence.

CEEC planning supervisor visited the seven schools and talked with principals about rooms selected for kindergarten classes which included:

- three large rectangular rooms with built-in shelving, teacher's closet and children's coat closet;
- three new primary rooms, almost square in shape, with no built-in facilities;

one rectangular room of medium size, with some built-in shelving, a teacher's closet, and moveable storage and coat closet unit constructed by the county.

(All rooms contained a single toilet room, sinks, and drinking fountains.)

Transportation details for the seven schools were worked out.

In-service needs were identified by the CEEC planning supervisor and the following arrangements made:

in-service, as adopted by Department of Instruction, to be scheduled for days of early school closing;

CEEC planning supervisor to determine the content of in-service;

Dr. Helen Robison of Teachers College to be a major consultant for the year.

In-service meetings for teachers and aides were as follows:

September 5-8 (teachers only)	Dr. Robison, consultant, on Sept. 7: orientation and planning the first days of school.
September 8 and 15 (aides only)	Orientation: characteristics of the five-year-old, professional ethics of the aide, a-v training.
October 12 (teachers only)	Equipment and learning centers in the kindergarten.
October 26 (teachers only)	Dr. Robison: small group activities, language arts, and learning centers.
November 3 (teachers and aides)	Dr. Beverly Crump, Supervisor of Art: developmental levels in the expressive arts.
November 6 (teachers only)	Mrs. Adeline McCall, author of This Is Music: a creative music program in the kindergarten.
November 7 (teachers and aides)	Dr. Ronald Dearden, CEEC staff: evaluation instruments and techniques.
December 4 (teachers only)	Dr. Charles Davis, Supervisor of Science: AAAS program for kindergarten.
December 13 (Centreville and Hollin Meadows' teachers)	Miss Elizabeth Hall, Montessori teacher: workshop on Montessori equipment.
January 29 (teachers only)	Dr. Robison, at Lewinsville, Centreville, and Westmore: a critique session with teachers in afternoon.

February 12 (teachers and aides) (teachers only)	Mr. Lou Godla, Supervisor of Industrial Arts: workshop on the workbench. Miss Hall: "Montessori's Principles of Teaching."
March 11 (teachers and aides)	Dr. Davis: AAAS program.
April 8 (teachers and aides)	Dr. Dearden: evaluation
May 27 (aides only)	Evaluation
May 31 (teachers only)	Evaluation

Management routines were worked out with respective departments in cooperation with CEEC, as follows:

Directors of Food Services and Elementary Education — routines for snack in kindergarten.

Director of Maintenance and Plant Operation — custodial routines for cleaning of kindergarten classrooms during noon-time break.

Visitation procedure for the demonstration classrooms was worked out cooperatively with the teachers.

Members of the School Baord and the administrative staff were invited to visit the classes, the CEEC planning supervisor accompanying as many of these visitors as possible.

A committee was appointed to make recommendations on reporting to parents for both demonstration classes and 1968-69 county-wide classes. This committee began to function in November.

Committee submitted following report possibilities to Department of Instruction in December:

A. parent conferences in January and June, teachers to be released from classrooms for this purpose;

B. conference in January and a written report in June;

C. written report, alone.

Department of instruction adopted plan for written report to be sent to parents of children in demonstration classes in June and to be used as a model and revised if necessary for 1968-69.

Report card went through following stages:

initial report card drawn up by committee,

revised by principals of seven schools and elementary supervisors,

revised by teachers,

revised again by Department of Instruction and CEEC staff,

adopted in April and printed for use in June, 1968.

Teachers of seven classes submitted lesson plans and curriculum ideas in specific areas to the Curriculum Committee.

Teachers formulated and initiated their own home-school relationships through PTA meetings, conferences, and parent-orientation meetings. (Three teachers also talked to parent groups outside the school area.)

CEEC planning supervisor supervised classrooms on irregular basis, after January usually accompanied by visitors.

Equipment and Materials

With Dr. Sidney Schwartz of Teachers College, who served as consultant, and a staff member from the Department of Instruction, the CEEC planning supervisor made the initial identification of equipment and materials for 1968-69 classrooms.

CEEC planning supervisor drew up a list of sources and prices.

The seven teachers and the CEEC planning supervisor revised the list, deleting some and adding other equipment as a result of experiences in the demonstration classrooms.

The list was submitted to the Department of Instruction and further revised in a work session with the elementary supervisors.

Conferences with the Director of Supply and the Assistant Superintendent of Finance resulted in additional revisions.

The list was divided into two categories, according to funding source: instructional equipment, capital outlay; 1968-69 supplies, current budget.

The list was submitted to the Department of Supply, which sent a cost-per-room estimate based on list prices to the Assistant Superintendent of Finance.

Four representatives from the Department of Supply visited five of the kindergarten rooms with the CEEC planning supervisor and examined the equipment for specifications.

Copies of the list of requested equipment and supplies were sent to the Superintendent of Schools, who submitted it to the School Board.

The list was discussed by the School Board at two meetings:

a general meeting, where the total budget for kindergarten was examined and questions asked of the CEEC planning supervisor, the Director of Elementary Education, and the Assistant Superintendent of Instruction.

a meeting to examine items on the list to be included in the Table of Allowances, at which a kindergarten teacher and the Director of Elementary Education answered questions.

A meeting in February was held with elementary principals and supervisors in each of the six supervisory areas to discuss all items on the equipment list, the plan for ordering, and delivery and storage considerations.

The School Board directed the Department of Supply to order the basic list of equipment and materials, withholding action until a future time on the following items: polaroid cameras, sand-water tables, electric mixers, and carpeting.

The Department of Supply put items on bid and orders were made, with delivery of some items beginning in June.

CEEC planning supervisor sent a memo to the Assistant Superintendent of Finance, giving average cost of maintenance per year, per kindergarten room, to be used for future budget considerations.

A committee of administrators and school librarians was appointed to study and identify trade books to be recommended for purchase by the individual school libraries.

With the Supervisor of Libraries as chairman, the committee took the following action:

developed guidelines for working with the five-year-old and participated in area meetings as panel groups for discussing the guidelines;

developed a book list for each librarian to use as a reference when ordering new books;

sent book list and guidelines for working with the five-year-old to the Curriculum Committee for incorporation in the guide.

Assessment of Facilities

The Assistant Superintendent for School Services called a meeting of administrative and supervisory personnel to discuss assessment of the facilities of the individual schools.

CEEC planning supervisor designed a form to be sent to each school, assessing central storage, room storage, toilet facilities, location of classrooms, and primary furniture on hand.

The Department of Instruction, Department of School Services, and the Administrative Office revised the form and it was then sent to each school.

The form was returned by the schools to the Department of School Services to be used for guidance in planning immediate renovations and future building additions.

A committee of administrators and supervisors was appointed to study the physical development of the five-year-old and to make recommendations for outdoor equipment to be purchased over a long-range period.

The study, assessment, and recommendations for the playground and equipment were postponed until the 1968-69 session.

Budget Preparation

The CEEC planning supervisor discussed items for the kindergarten for 1968-69 with the Director of Elementary Education, drew up budget requests, and submitted them to the Director for further study.

Transportation for 1968-69 Classes

A discussion between the Director of Transportation, his staff of supervisors, and the CEEC planning supervisor in September, 1967, resulted in a decision to propose a 1968-69 budget item for transportation aides for the noon run.

In February, a committee headed by the Associate Superintendent of Schools and composed of the directors of elementary education and of transportation and the CEEC planning supervisor met to consider drawing up a plan for noon transportation to submit to the School Board.

Elementary principals wrote to the Associate Superintendent telling of unique safety problems and concerns. (Contact by the Associate Superintendent with the Police Department indicated that less than 33 per cent of the crossing guards wanted to assume noon duty.)

A plan was drawn up and submitted to the School Board. The Associate Superintendent, the Director of Elementary Education, and the CEEC planning supervisor met with the Board and answered questions about the plan.

Public Relations

Interest of the lay community in the kindergarten program was high in August and September, 1967. The CEEC planning supervisor participated in interviews for newspapers, radio, and television news programs.

CEEC planning supervisor and the staff photographer for the schools' Media Center visited the classrooms upon several occasions in September through November to take slides and 16mm movie shots.

Slides were made into a presentation by the CEEC supervisor to be used for public groups. Two duplicate sets were sent to the Department of Instruction with a skeletal script for their use. (16mm movies were abandoned because of technical difficulties in filming.)

CEEC planning supervisor and the elementary supervisors had many requests for talks to community groups, including: PTA's, private schools, Northern Virginia Private School Association, Northern Virginia Association of Parochial Schools, and private cooperative groups.

CEEC planning supervisor met with small committees representing various cooperative schools to discuss the county program for 1968-69.

CEEC staff information specialist, at the request of the Department of Instruction, edited speeches given by Dr. Kenneth Wann to the Curriculum Workshop of June, 1967. These speeches were printed and distributed by the Department of Instruction prior to pre-service program for county-wide classes.

CEEC planning supervisor reported progress to the Community Action Program Committee during CEEC's regular meeting with this group.

CEEC planning supervisor met with the Educational Committee of the League of Women Voters and gave a presentation on the demonstration classrooms, and planning for 1968-69. She met later with a sub-group of the League's Education Committee to answer questions.

CEEC office received numerous telephone calls asking for general information on the program, for employment, and for answers to specific questions.

Assistant Director of CEEC worked with Director of Elementary Education in determining a list of answers to questions commonly asked. This list was given to all departments so that incoming calls could be answered without referring caller to another department.

Arrangements were made for visitation to the demonstration classrooms by private school personnel, PTA representatives, and others.

Personnel from early childhood departments of local universities were asked to visit the demonstration classrooms. They were accompanied by the CEEC planning supervisor whenever possible.

A filmstrip to be used during 1968-69 was designed by the CEEC supervisor and an elementary supervisor. Slides were taken during March, April, and May for this purpose and an accompanying script was later written.

A presentation was made to the combined groups of the Board of Supervisors and the School Board by the CEEC supervisor.

CEEC planning supervisor attended a five-day workshop on early childhood education in Daytona Beach, Florida, sponsored by Southern States Workshop. Representatives from eleven southern states attended.

Pre-school registration of kindergarten children was held in each school during March to June. These were scheduled by the Fairfax County Health Department and Department of Instruction.

Parent orientation meetings were held in some schools in April, May, and June.

CEEC supervisor met with representatives of book and equipment companies who requested conferences.

Staff Development

CEEC planning supervisor gave briefing on status of the demonstration classes and planning for 1968-69 at the then six area principals' meetings in January. A written paper accompanied the briefing.

In-service for the 1968-69 kindergarten program was joint responsibility of Director of Staff Development and Department of Instruction; accordingly, a committee was formed in February with CEEC planning supervisor and two demonstration kindergarten teachers among members to plan in-service for 1968-69 kindergarten program.

Visits were made to exemplary programs in other systems in the state and in Colorado, California, Florida, and New York City by the CEEC planning supervisor and elementary supervisors.

Curriculum Development

Decision made by Assistant Superintendent for Instruction and Director of Elementary Education in September, 1967, to have curriculum guide continue as responsibility of Department of Instruction.

November brain-storming session of two CEEC staff members and two elementary supervisors resulted in ideas for curriculum team approach.

CEEC evaluation specialist wrote paper, "The Curriculum Team," which was sent to the Department of Instruction in December for consideration and/or approval.

Approval for curriculum team approach was given in February. Department of Instruction reorganized Curriculum Committee and formed Reaction Committee, a totally new committee.

First meeting of combined committees was held in March.

Curriculum Committee, now broken into sub-groups, met many times during spring months for intensive writing. Substitutes were provided for classroom teachers serving on this committee. Two kindergarten teachers were members of the writing committee.

All kindergarten teachers contributed materials to be incorporated into the guide. This material was sent to the CEEC office to be forwarded to the chairman of the Curriculum Committee.

Material was sent to various members of the Reaction Committee, who reacted to the material and returned it to the chairman of the Curriculum Committee.

It was agreed that the Curriculum Guide was a working guide to be expanded and revised over the next five years.

Personnel Selection

Department of Personnel given sole responsibility for the selection of teachers and aides for 1968-69. (Special effort was made to visit colleges with strong and large early childhood departments.)

CEEC planning supervisor sent a preliminary statement of the functions of aides as evolving in the demonstration classrooms to the Director of Elementary Personnel. Tasks had been identified by the teachers during one of the monthly in-service meetings.

Numerous telephone calls to the CEEC office regarding employment were referred to the Department of Personnel.

Evaluation

Various brainstorming sessions on evaluation of the demonstration classes were held in August and September, 1967, with participants from CEEC and the Department of Instruction.

CEEC evaluation specialist and planning supervisors for both child study and kindergarten formulated: objectives, evaluation patterns for subjects, and evaluation techniques for other areas of program.

CEEC evaluation specialist performed following tasks for demonstration classes:

ordered standardized tests;

trained teachers and aides to administer them;

trained three part-time employees to record data;

set up form for collecting data;

contacted each principal concerning data to be secured from his school;

designed several instruments for obtaining data relating to equipment and materials, school-community relations, and reactions of participants to the program;

had personal interview with each principal prior to the principal's completing the survey questionnaire;

arranged for data from standardized tests to be key punched for computer analysis;

analyzed and interpreted both standardized and non-standardized data.

Speech therapists screened children in all seven classrooms for auditory discrimination and articulation.

SECTION II - THE EVALUATION

THE NATURE OF THE EVALUATION

It should be emphasized that the demonstration kindergarten project, as already stated in the Introduction, was to serve as a vehicle for implementing kindergarten on a system-wide basis. The Department of Instruction would then review the recommendations coming out of the research findings and take the responsibility for accepting, modifying, or rejecting the philosophy and procedures developed in the experimental program. (The evaluation report also provides a framework for coordinating the efforts of a Title III center and a local school system in organizing, planning, and implementing an instructional program.)

The study was designed to be heuristic rather than conclusive. The total research population (the teacher, aide, and principal of seven schools and 320 pupils) was obviously too small to allow for definitive answers. By the very fact of its heuristic nature, however, the evaluation performs two important functions: it focuses on areas of a kindergarten program for this school system — and presumably for like systems — which should be reviewed and analyzed before implementation; and it acts as a roadsign pointing out further research toward continued program development and improved education.

THE KINDERGARTEN INVENTORY

Before proceeding with the evaluation reports, it is useful to consider the kindergarten inventory, which indicated the following:

Sex distribution of the kindergarten children in the program was proportionate, with 52 per cent boys and 48 per cent girls. Sex distribution of the children in individual classes ranged from an equal distribution in one A.M. class to an unequal distribution, with 78 per cent girls, in another A.M. class.

Class size ranged from a low of 19 pupils up to a high of 26 pupils. Average class size for the 14 classes was 23.

An analysis of the children's nursery school experiences showed that 83 per cent had had no such experience, 11 per cent had had one year, and 2 per cent had had two or more years. Parents of 4 per cent failed to answer this question.

More than 96 per cent of the children lived with both of their parents.

More than 97 per cent came from families of two or more children. Specifically, 24.8 per cent came from families of 2 children; 24.8 per cent of 3 children; 16.1 per cent of 4 children; and 12.7 per cent of 5 children. Family size ranged from one child to thirteen children.

More than 25 per cent of the children were second-born children; 18.6 per cent were first-born; and 18.6 per cent were the third child in their families.

More than 53 per cent of the fathers had educations beyond high school. Of this 53 per cent, 27.9 per cent had B.A. degrees or beyond and 11.8 per cent had M.A. degrees.

Data on the father's occupation showed that 26.7 per cent were professional or executive men, 13.3 per cent were semi-skilled men, 12.7 per cent were skilled men, 6.8 per cent were technical men and the remainder were business or managerial men, military officers, workmen or laborers, and enlisted men. Twenty-one per cent of the records did not list fathers' occupations.

Information on the mothers' occupations revealed that 88.5 per cent were housewives (mothers working part-time are considered housewives), 4.6 per cent were semi-skilled workers, 1.5 per cent were domestic workers, and 1.5 per cent were professional workers.

Information on the kindergarten children's health was non-existent in the schools' cumulative records.

A considerable amount of information was omitted by parents in completing forms for the cumulative records, particularly information on the educational and occupational levels of parents, children in the family, and medical history.

It is recommended that school cumulative records for kindergarten be examined carefully and that great care be given to obtaining this information from parents when they enroll their children.

EVALUATION OF THE OBJECTIVES

In the reports which follow, evaluation findings follow re-statement of the various objectives.

OBJECTIVE 1: To observe the characteristics (as they related to social, emotional, physical, and mental development) of Fairfax County five-year-old children.

In connection with this objective, the Metropolitan Readiness Test and the Wide Range Achievement Test were administered on a pre- and post-test basis to pupils in the seven pilot schools. The former test is designed to measure the development of pupils in various skills and abilities which contribute to readiness for instruction. The latter is devised to measure the development of pupils in reading (word recognition and pronunciation), spelling, and arithmetic. It also serves as an adjunct to intelligence and behavior adjustment tests.

The pre- and post-test scores of the Metropolitan Readiness Test (MRT) and Wide Range Achievement Test (WRAT) indicated that:

A. With the exception of one group of boys whose MRT post-subtest in copying (see tables) indicated no gains, boys and girls in all classes made gains on all MRT subtests.

B. Both mean and standard deviation pre- and post-test scores obtained for the kindergarten children revealed a wide variance of readiness and achievement from school to school. (See table, back of book.)

C. Pre-test scores indicated that girls as a group scored higher on listening, matching, alphabet, copying, and on total scores of the MRT and on reading, spelling, and arithmetic on the WRAT. Boys as a group outperformed girls only in word meaning and numbers subtests of the MRT pre-test.

D. Post-test scores revealed that girls as a group scored better than boys in word meaning, matching, alphabet, and copying, and on the total score of the MRT and in reading, spelling, and arithmetic of the WRAT. Boys as a group were able to outperform girls only in the listening and numbers subtests of the MRT.

E. The pre- and post-test MRT and WRAT findings obviously indicate that the girls as a group performed better than the boys in the kindergarten program.

The following summary of MRT and WRAT tests shows the range of readiness and achievement in the total kindergarten population. The range of post-test mean total scores obtained on the MRT,

without any correction for kindergarten national normative performance, reveals the following readiness status for children in the Fairfax demonstration program:

All Boys	All Girls
[i]3 groups - high normal	4 groups - high normal
(Total scores in the range of 64-75)	
3 groups - average	2 groups - average
(Total scores in the range of 45-63)	
1 group - low normal	1 group - low normal
(Total scores in the range of 24-44)	

In using the post-test mean raw scores on reading, spelling, and arithmetic subtests of the WRAT, the following ranges of grade norms[ii] were obtained for the kindergarten children:

	All Boys	All Girls
Reading	1.3 - 1.0	1.3 - 1.2
Spelling	2.2 - 1.5	2.5 - 1.4
Arithmetic	4.2 - 2.2	4.2 - 2.2

The majority of scores obtained on the MRT and WRAT pre- and post-subtests are statistically significant at .01 and .05 levels. This indicates that growth by both boys and girls in the program from the pre-test measure to the post-test measure was significant in the majority of subtest items of the MRT and WRAT. This finding implies that those boys and girls falling below the significance levels are exceptions in the total population. (See tables.) The finding also points to the urgent need for research in greater depth to discover why such children do not perform as most do.

When reviewing the tables, MRT subtests in numbers, copying, listening, and matching and the WRAT subtest in arithmetic should be examined carefully because of the non-significant growth of certain classes.

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i One group of boys obtained a post-mean total score of 75.78. A superior rating is given for a score above 76.00.

ii Grade norms are expressed in years and months; e.g., 1.3 is 1 year and 3 months.

F. The significant gains on the subtests of the MRT and WRAT indicate that the kindergarten boys and girls as a group performed creditably and apparently were skilled in the areas tested.[iii]

G. The standard deviation (S. D.) scores may well be the most important indicators of the performance of boys and girls and schools in the program. The variance between pre- and post-test mean scores and S. D. scores is particularly revealing when interpreting performances. For example, a smaller S. D. post-test score indicates that variance has been reduced from the S. D. pre-test score. The data reveal significant gain in mean scores and a corresponding reduction of variance or dispersion on the S. D. scores. Some schools and boys' and girls' groups, however, made significant gain and there was a corresponding increase in variance. This seems to suggest that differences in performance became more marked during the year and that further research on the matter — especially where the children have mixed socio-economic backgrounds — is a real need.

H. The difference between the variances of individual children's pre- and post-test scores and the difference between the variances of the pre- and post-test scores of the separate schools indicate that the kindergarten classes did not have the same effects for all children. This fact highlights the importance of providing a flexible instructional program, one that can meet the varying cognitive as well as social, emotional, and physical needs of all the children.

* * * * *

Also administered in connection with Objective 1 was the Wepman Auditory Discrimination Test and the Templin-Darley Tests of Articulation. The first is designed to measure a pupil's ability to recognize fine differences between the various phonemes used in English speech. The child is asked to listen to the examiner (speech therapist) read pairs of words and to indicate whether the words read are the same. Comparisons are made between 13 initial consonants, 13 final consonants, 4 medial vowels, and 10 false choices. In revealing instances of delayed development in auditory discrimination for speech, the test also points to children who are likely to have difficulty learning to use phonics.

[iii] Because there was no matched control group, however, there is little evidence to ascribe these gains to the experimental kindergarten program, itself.

In the pilot kindergarten program, 276 children were tested by teams of therapists assisted by the volunteer help of parents and sixth grade pupils. The analysis to follow is concerned with children from 13 of the classes, both A.M. and P.M., who were subdivided into 13 groups of girls and 13 groups of boys, a total of 26 groups. The test results indicated that 9 of the 26 groups had scores indicating inadequate auditory discrimination. The 9 groups included the following:

A.M. classes, boys' groups - 2

P.M. classes, boys' groups - 4

A.M. classes, girls' groups - 1

P.M. classes, girls' groups - 2

There were also two other groups of children who were right at the border line. Thus, a total of 11 A.M. and P.M. male and female groups, or 42 per cent of the total population had X error scores of 6 or more, i.e., inadequate development of auditory discrimination. In addition, 55 of the tests resulted in X error scores which indicated that the testee (a) had hearing defects, or (b) was poorly motivated, or (c) that the test was invalid.

It can be concluded that there is a need for in-depth study of the Wepman test and of other means of testing auditory discrimination of kindergarten children, as well as of attendant implications for speech specialists and teachers. There is also a need to develop special techniques for increasing auditory perception or for increasing the visual modality of learning for the kindergarten child.

The second of these tests, the Templin-Darley Tests of Articulation, is used to assess the general adequacy of children's articulation, i.e., sounds and sound combinations which are associated with significant progress in the development of articulation. The range of mean scores of the number of correct responses out of 50 possible was:

	Mean Scores
A.M. classes - boys	43.8 - 32.0
P.M. classes - boys	44.7 - 39.9
A.M. classes - girls	44.0 - 35.4
P.M. classes - girls	49.1 - 38.0

The number of children below the cut-off score, i.e., having inadequate articulation was 33, less than 2 per cent, including 16 boys and 17 girls. Thus, the test results indicate that the kindergarten children have adequate articulation.

* * * * *

A fifth study related to Objective 1 was designed to examine kindergarten children's social, emotional, and task-oriented behavior as perceived by the classroom teacher and aide. This information could then be used in future program planning.

The teachers and aides were asked to complete the Classroom Behavior Inventory[iv] of a sample of 158 children, including 84 girls and 74 boys, from the morning and afternoon classes. The selected children were rated on the following behavioral traits: verbal expressiveness, hyperactivity, kindness, social withdrawal, perseverance, irritability, gregariousness, distractibility, considerateness, self-consciousness, concentration, and resentfulness. In connection with each of the 12 traits, the inventory also listed five statements describing possible aspects of each trait (e.g., gets annoyed for trivial reasons or rarely joins in activities with others of his own accord). Thus, the total inventory consisted of 60 behavioral items. Each item was then described by degree (e.g., very much like, somewhat like, very little like, and not at all like).

In addition, the teachers and aides were asked to provide a rating on the level of adjustment of kindergarten children generally and another on the degree of confidence they had in this general adjustment rating.

There are admittedly two areas of concern in connection with the Schaefer inventory. First, because it is difficult to screen out of the ratings that element which is experienced by teachers as a possible criticism of their effectiveness, a great deal of subjectivity goes into the ratings. Second, it is difficult to generalize on the findings because of the lack of description of the precise classroom situation which led to specific ratings. Nevertheless, the ratings are valuable because they afford a frame of reference in which the teachers (and aides) operate. Such a frame of reference needs further investigation if classroom interaction is to be understood.

There follows a summary of the inventory:

Verbal Expressiveness

The ratings indicated that children are ego-centered, apt to talk about themselves but not apt to participate in group discussions in the classroom.

Hyperactivity

The children were not perceived as being hyperactive.

Kindness

They were not perceived as being kind and thoughtful. This finding agrees with other early childhood research.

[iv]Classroom Behavior Inventory developed by Dr. Earl S. Schaefer, May R. Aaronson, and Betty R. Burgoon, National Institute of Mental Health, Bethesda, Maryland.

Social Withdrawal

They were perceived as more apt to play with other children and as showing little social withdrawal.

Perseverance

They were viewed as having very little perseverance in completing tasks. A specific finding indicated that an initial effort which fails is not followed by a second try.[v]

Irritability

They were not viewed as being unpleasant or impatient.

Gregariousness

They were viewed as apt to merge into groups without asking or waiting to be invited.

Distractibility

They were generally perceived as not being distractible.[vi]

Considerateness

They were seen as being inconsiderate of one another.

Self-consciousness

They were viewed as not being self-conscious.

Concentration

They were viewed as not being attentive.[vii]

Resentfulness

They were not seen as resentful.

General findings indicate that both teachers and aides perceived kindergarten children as being able to get along well and to have little or no difficulty in adjusting to others or to classroom activities. Girls were seen as being slightly more adjusted than were boys. As a matter of fact, girls were generally rated more favorably than were boys by both teachers and aides in all the behavioral traits.

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[v] Findings in connection with perseverance, distractibility, and concentration suggest the question of whether perceptions stemmed from teacher-directed instruction or from a child-selected activity. The answer to the question might also throw light on the apparent contradiction between findings on perseverance and concentration and the finding on distractibility.

[vi] Ibid.

[vii] Ibid.

There were, however, numerous ratings which indicate differences between perceptions by the various teachers and by teachers and aides of various behavior items. These showed up specifically as they related to the sex of the kindergarten child and also to A. M. or P. M. classes.

Finally, findings revealed specific differences of perception as it related to pupils from higher socio-economic backgrounds or to those from lower.

OBJECTIVE 2: To develop a broad outline in the academic and non-academic learnings.

OBJECTIVE 3: To determine appropriate activities for kindergarten children.

OBJECTIVE 4: To determine ways to individualize instruction at the kindergarten level.

The above objectives have been grouped together because they provided a general framework for teachers as they cooperated with the Department of Instruction curriculum committee in identifying and developing behavioral objectives and activities for the kindergarten curriculum guide. These objectives are not measurable per se with standardized or locally constructed instruments. (A curriculum guide, published by the Department of Instruction, provides specific guidelines for the instructional program in the kindergarten.)

OBJECTIVE 5: To examine the effectiveness of varied instructional and diagnostic materials.

On the theory that instructional materials are crucial to the learning process, two survey instruments, constituting parts 1 and 2 of the "The Kindergarten Materials Rating Scales," were designed to evaluate the instructional materials used in the seven pilot kindergarten programs. The instruments included a classification scheme that placed materials in the following categories:

- teacher materials
- reading/library center materials
- general classroom materials
- workbench center materials
- housekeeping center materials
- music center materials
- other miscellaneous materials
- blockbuilding center materials
- mathematic materials
- manipulative materials
- social studies materials
- listening center materials
- Montessori materials

Part 1 of the rating scales asked for teacher assessments of availability, adequacy, suitability, and frequency of use of the materials for the kindergarten program. Part 2 asked for teacher evaluation of materials for specific instructional areas in the kindergarten program, seeking information particularly on whether specific materials were essential, desirable, enriching, or of no value to specific instructional areas.

The research findings derived from the survey indicated that:

The adequacy and diversity of instructional materials were considered by teachers to be key factors in developing a flexible kindergarten program and provided the teachers a unique opportunity to experiment and to design instructional programs for children's individual needs.

Most instructional materials were used on a daily basis and were evaluated as being suitable for the instructional program. Materials infrequently used or assessed as unsuitable either (a) duplicated the function of other material; (b) had limited use in terms of children's growth and development; (c) were of poor quality or did not meet the teacher's specifications; or (d) were unfamiliar to the teacher, who consequently did not understand their use.

Most instructional materials also were judged to be essential to the kindergarten program. (The teachers were apparently reluctant to assign a "no value" rating to materials and, if they could not categorize the materials as essential, desirable, or for enrichment, frequently did not respond at all.)

Teacher's perceptions of the essentiality of materials to specific areas, knowledge about the effective use of materials, and understanding of how materials can be related from one area to another were identified as important factors in determining the use of the materials.

Teacher ratings revealed that they understood many relationships among and between instructional materials and specific academic and non-academic areas. The findings suggest, however, that the teachers appeared to have a better understanding of those relationships among and between academic areas (language arts, science, social studies, and math) than they did of non-academic areas (art, music, social adjustment). This finding indicates that the best use of instructional materials was made in subject matter fields, where there is a direct tie-in between skills and materials.

The evaluations indicate that the teachers did not understand how to use all the materials even though these materials are normally found in a kindergarten program and did not perceive all the possible relationships among and between materials and academic and non-academic areas.

The findings also suggest that teachers did not understand how to present and use some instructional materials in a progressive sequence. The use of beads to gain concepts of color and design, for example, might begin with the child first following a design of a string of beads placed next to him (the concrete stage), next following a pictorial design in stringing his beads (the symbolic stage), and finally creating his own designs. The designs on each level progress in complexity of shapes and colors and variations of colors within shapes.

The findings strongly indicate that there is an apparent gap between what teachers actually know about instructional materials and what they are expected to do with instructional materials. This finding clearly highlights the need for special in-depth pre- and in-service training for all teachers if they are to use the instructional materials to the greatest advantage in the kindergarten program.

The following recommendations can be offered in planning for instructional materials in a kindergarten program:

Because the sample here reported is limited for drawing definite conclusions, it is strongly recommended that a larger sample of teachers (50 or more) be included in a future research design; and it is essential that the findings of this research design be acted upon prior to the onset of the program.

Teachers should be actively involved in the selection and evaluation of materials. A representative group of teachers should be involved in the actual selection process, following and revising the criteria developed for the pilot kindergarten program; a larger group should be involved in the assessment of materials.

To bridge the apparent gap between what teachers know about instructional materials and what they are expected to do with the instructional materials by program planners, an orderly and intensive pre- and in-service program dealing with instructional materials for kindergarten teachers and aides should be scheduled. These programs need specifically to deal with (1) the most recent research findings relating to instructional materials, (2) the development of a basic understanding of how to use instructional materials to maximize instruction, and (3) the development of a pattern for sequential instructional activities.

It is important to develop evaluation instruments that will assess how effective instructional materials are in contributing to the attainment of the objectives of a kindergarten program. For example, certain of the following heuristic questions could be raised: 1) how often do teachers or pupils use the available materials? 2) how often do teachers change the materials available to them? 3) is a sequence of materials visible in classrooms? 4) what is the relationship of standardized test data to the use of instructional materials? and 5) what are the implications for the first-grade program in terms of instructional materials usage?

OBJECTIVE 6: To determine the function of teacher aides and develop a system of in-service training for them.

For this objective, teachers and aides were requested to complete a survey instrument designed to collect information on the backgrounds of teachers and aides, their perceptions regarding the types of duties aides should perform, and their assessments of the contribution of the aides to the kindergarten program. This information constitutes baseline data for formulating the role of the aides in the kindergarten program and will be used in developing future plans.

The survey instrument grouped the duties of the aides into the following six categories:

1. direct instruction prescribed by the teacher and/or spontaneous activities under direction of the teacher with the aide providing instruction,
2. instructional support in prescribed activities under the direction of the teacher,
3. technological support involving the use of audio-visual equipment and materials in teacher-prescribed activities,
4. clerical support of teacher-prescribed activities that required preparation of materials, and recording of pupil progress and other data,
5. monitorial support of supervisory duties,
6. housekeeping support to maintain a classroom conducive to the teaching-learning process.

Conclusions derived from the findings indicate:

Educational attainments and previous working and other experiences, including that of being parents, equipped the aides more than adequately for their role in the kindergarten program.

Aides, who were regarded as members of an instructional team, were used in the classrooms to perform a variety of duties related to instructional, housekeeping, clerical, monitorial, and technological services. Direct instruction is performed least often; tasks involving instructional support most often.

Evaluations from both aides and teachers reveal perceptual differences between teachers and aides regarding the types of duties assigned by teachers to aides. Actual differences, depending on the individual teacher's mode of operation and skill in using the aide, existed from classroom to classroom. These facts suggest a need for further examination and a clearer understanding of the role of the aide in the kindergarten program.

Ratings from the aides show that both pre- and in-service meetings, particularly those with teachers present, were a valuable experience for the aides. The findings also indicated that there is a need to continue a variety of pre- and in-service programs in academic and non-academic areas.

OBJECTIVE 7: To assist parents in understanding the meaning of the kindergarten program and activities.

Because of the influence of the family unit on school success or failure, the importance of involving parents in kindergarten and primary educational programs cannot be overemphasized. It goes without saying that when parents and teachers work together, they have a better understanding of the child and the child has a better opportunity for developing his potential. There is also a relationship between school attendance by children and parents' understanding of the instructional program. When parents understand what the program is doing for their children and perceive this as important, they ordinarily are interested in having their children attend school as regularly as possible. Thus the need for parent involvement and understanding is essential to the schools.

In evaluating the degree of attainment of Objective 7, CEEC made no attempt to assess understanding by parents of the kindergarten program. Instead, the evaluation took the alternate form of attempting to obtain from teachers information as to how parents were involved in the kindergarten program. For this purpose, a survey was designed regarding parent-teacher meetings, home visitation, and parent involvement; and suggestions or recommendations for improving home-school relations were obtained from the program's teachers.

It was concluded that the home-school relations program developed by the individual schools was generally successful in establishing an atmosphere of understanding, acceptance, and respect for the kindergarten program. A variety of methods, including parent-teacher meetings, home visitation, parent involvement, and a newsletter, was used to inform parents about the program. The number and types of parent meetings used by the teachers were rated as successful, with the number and types of home visits being somewhat less so.

It is recommended that a careful delineation of goals for home-school relations and of roles and responsibilities in this area of kindergarten teachers, principals, and supervisors be drawn up. Pre- and in-service meetings for school personnel in planning and developing positive home-school relations should be scheduled, and a policy for the types and number of parent meetings and home visits conducted during the school year should be established. Released time for teachers to conduct individual conferences for reporting to parents should be provided, and, finally, parents should be surveyed next year regarding their perceptions of the effectiveness of home-school relations.

OBJECTIVE 8: To serve as demonstration centers for prospective teachers, aides, and other interested persons.

In January, 1968, the pilot classes were opened for visitors in each of the seven schools (Centreville, Edsall Park, Hollin Meadows, Lewinsville, Springfield Estates, Walnut Hill, and Westmore). An analysis of the data collected reveals that the classes served this purpose very well. For the time period beginning in January and extending through the beginning of May, 840 visitors observed in the seven schools. If parent volunteers are added to this total, (parent volunteers were involved in a variety of activities in each of the 14 individual classes) the pilot kindergarten classes will have had approximately 1,000 visitors for the 1967-68 school year.

OBJECTIVE 9: To develop management routines.

The chapter titled "Planning and Organizing: A Chronology" outlines various organization and management routines, stating how they were planned and their disposition. Other management records applicable to the individual school were developed and incorporated into the county kindergarten guide for teachers.

OBJECTIVE 10: To develop alternate plans for evaluation.

Alternate plans is here defined as several modes of evaluating the same factors. This objective was partially fulfilled in certain sections of the evaluation of specific objectives, for example, both standardized and non-standardized instruments as well as teacher ratings in assessing the children's characteristics and also their achievement.

Objective 10, however, is long-term and the evaluation design of the pilot program will serve as base line data for future kindergarten evaluations. In addition, various new forms of evaluation will be designed to yield further information on specific factors presently being studied as well as other factors, including teacher-child interaction in the classroom, which need to be studied in the future.

OBJECTIVE 11: To study alternate patterns of class size.

(In August, 1967, the Fairfax County School Board adopted a staff recommendation which set class size. Since only 40-50 children within a school neighborhood, as a maximum, could be accommodated by the two sessions, some means of selection had been necessary. It was decided that all five-year-old children within a school's boundary would be eligible to register and that final selection would be made on a random basis. The schools were then listed alphabetically and given an arbitrary enrollment figure of 40 or 50 children, four schools having 40 and three, 50. The maximum registration figure, 50, was held firm. In those schools where more than 40 but less than 50 sought to enroll, however, it was decided to accept all these registrations. Thus, any possibility of studying alternate patterns of class size had to be abandoned.)

PERCEPTIONS OF KINDERGARTEN PERSONNEL

Certain research studies have shown a strong relationship between school administrative procedures and the quality of classroom instruction. Other studies have revealed a need to obtain data describing perceptions by participants — teachers and administrators — toward the goals, effectiveness, and program implementation of pilot education projects. In light of these previous studies, the CEEC staff deemed it important to examine the effectiveness of administrative and supervisory activities in the demonstration kindergarten classes as well as to identify factors which constituted strengths or weaknesses in program design and implementation.

Three instruments were designed to obtain relevant information: (1) A Survey of the Perceptions of Kindergarten Teachers; (2) A Survey of the Perceptions of Kindergarten Principals; and (3) An Inventory of Factors Affecting the Kindergarten Program.

Their purpose was to assess reactions by teachers and principals to various aspects of the kindergarten program and also to get their recommendations for future implementation of the program.

Perceptions of Teachers and Principals Concerning the Kindergarten Program

While principals perceived the program more favorably than did teachers, a majority of both teachers and principals (60 per cent) evaluated the kindergarten program as very good with very little improvement needed.

The major objectives of the kindergarten program as they saw it were:

Teachers	Principals
To prepare the child for the first grade by providing a successful introduction to school life and routines (7 teachers)	To develop social skills and learnings (7 principals)
To meet individual needs and develop the whole child (6 teachers)	To promote readiness in a variety of areas for introduction to school life (3 principals)
To foster a good self-image and self-confidence (5 teachers)	To assist children to meet and solve their own problems (3 principals)
To provide an enriched environment, with many and varied materials, for the children (5 teachers)	To develop the learning potential of five-year-old children and the acquisition of worthwhile information (3 principals)

Teachers	Principals
To promote readiness in all areas of learning and foster the acquisition of academic skills (3 teachers)	
To develop social skills, sharing, getting along with others, etc. (2 teachers)	

The majority of principals involved in the program stated they felt the individual teacher under their separate administrations understood the objectives of the program. Teachers, likewise, felt principals understood objectives. Both groups believed the objectives of the program as listed in the columns above had been met.

Other responses to the perception survey included the following:

Principals rated the individual teacher's and aide's attitudes toward the program from positive to very positive; teachers judged their aides' attitudes also from positive to very positive.

Principals believed their role to have been moderately to well defined; teachers stated their own role had been very well defined and the aides' role was moderately to very well defined.

All of the principals stated that the teachers knew how to use all of the materials; six of the eight teachers stated they understood how to use the instructional materials provided for the program; two of the teachers indicated they knew how to use only some of the materials.

Principals reported that they had conferences or communicated with the respective kindergarten teachers on a daily basis; teachers confirmed this finding.

Six of the principals and all teachers indicated that they usually found it necessary to communicate with the CEEC planning supervisor on a monthly basis; two or the principals said they required weekly communication. Both teachers and principals reported a vareity of methods used to communicate with the supervisor, i.e., personal contact, by telephone, and by memorandum.

In assessing the kindergarten program, the principals and teachers gave the following ratings:

	Principals	Teachers
Instruction	Very effective (6)	Effective (5)
Administration	Effective (4)	Effective (4)
Supervision	Very effective (3)	Effective (6)
In-service	Very effective (4)	Effective (4)
Home-school relations	Very effective (4)	Effective (6)

Both teachers and principals cited the following factors as facilitating the progress of the kindergarten program:

Teachers	Principals
In-service programs on monthly basis — small groups for in-service and exchange of ideas	Attitude and ability of kindergarten teachers, aides, CEEC planning supervisor, and volunteers
Cooperative and pleasant attitude of CEEC planning supervisor, CEEC staff, and consultants	Interested and supportive parents
Up-to-date materials and equipment	Materials and supplies
The teacher aide	Preplanning and in-service education of teachers by CEEC planning supervisor and consultants
The principal	
Provisions for observations	
Public relations for program and supportive parents	

Teachers' Perceptions of Factors Affecting the Kindergarten Program

Analysis of the data indicates that the majority of the administration, instruction, in-service, and staff-relations factors listed in an inventory were evaluated by the kindergarten teachers as from relatively important to crucial factors in the effectiveness of the kindergarten program. Instructional and administration factors, however, apparently seemed of greater import than did staff-relations and in-service factors. Factors relating to in-service were put at the bottom of the list of four major factors, being regarded as only relatively important.

Teachers rated the following as being crucial to the program:

1. Administrative factors
   a. availability of materials, supplies, and equipment
   b. quantity of materials, supplies, and equipment provided for the art, blockbuilding, manipulative, reading/library, sand-water table, and workbench learning centers
   c. quality of organization and coordination of the program provided by CEEC and principal of the school
   d. flexibility of the program
   e. amount of time and adequacy of the snack break, playground period, and free play during the school day

2. Instructional factors
   a. instructional materials for the pupils
   b. opportunities to individualize the instructional program in language arts and art
   c. informal class atmosphere with small groups of children
   d. responsibility by the teacher in deciding on amount of time and depth of study in language arts, science, and art
   e. novelty and variety of new materials and supplies
   f. emphasis on more pupil-teacher interaction (all teachers cited this point)
   g. opportunities for teachers to explore new ideas and techniques
   h. suitability of instructional level and materials for children in language arts, science, art, and music
3. In-service factors
   a. quality of in-service meetings and contributions of various consultants and the CEEC staff
   b. amount of time devoted to in-service programs
   c. emotional support given teachers through in-service meetings
   d. motivation derived from in-service meetings by the teachers
4. Staff relation factors
   a. overall degree of cooperation provided by other teachers within the pilot kindergarten program and the CEEC staff
   b. degree of cooperation and assistance provided by principal and/or assistant principal
   c. degree of understanding and acceptance by parents and the communities served by the pilot program
   d. amount of communication between kindergarten teacher and principal

The following factors were rated by two or more teachers as being relatively important in blocking the effectiveness of the program:

1. Adequacy of the classroom space for workbench learning center (2 teachers)
2. Readiness for the program by teacher aides in September (2 teachers)
3. Pupil-teacher ratio, including even teacher aides (3 teachers)
4. Too few meetings with teacher aides to plan the kindergarten program (5 teachers)
5. Adequacy of in-service training program in the areas of art and music (2 teachers)

The following factors were rated by one or two teachers as being crucial in blocking the progress of the program:

1. Adequacy of classroom space for the blockbuilding, sand-water table, and workbench learning centers (1 teacher for each center)
2. Quantity of materials, equipment, and supplies for the reading/ library learning center (1 teacher)
3. Supervision provided by the planning supervisor (1 teacher)
4. Initial selection procedure for pupils (1 teacher)
5. Availability of school time for planning and preparing instruction (2 teachers)
6. Pertinence of instructional topics covered during the in-service meetings (1 teacher)
7. Adequacy of in-service training program in the areas of language arts, social studies, mathematics, art, operation and management, and supervision (1 teacher for each area)
8. Adequacy of amount of time for visitation and observation of other kindergarten classes (1 teacher).

METROPOLITAN READINESS TEST RESULTS

WORD MEANING

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	6.41	9.93	3.52	3.09	2.32	.
Girls (N=20)	6.05	10.40	4.35	3.44	3.01	.01
School 2						
Boys (N=27)	8.55	10.55	2.00	2.04	2.24	.01
Girls (N=18)	7.83	10.66	2.83	2.17	2.02	.01
School 3						
Boys (N=22)	8.18	9.90	1.72	1.86	2.28	.01
Girls (N=16)	7.81	10.75	2.94	1.90	1.73	.01
School 4						
Boys (N=24)	8.95	12.83	3.88	2.38	2.16	.01
Girls (N=20)	7.85	11.75	3.90	2.73	1.77	.01
School 5						
Boys (N=20)	6.80	8.45	1.65	2.64	3.89	.01
Girls (N=19)	8.10	8.73	0.63	2.64	3.26	NS
School 6						
Boys (N=27)	9.11	12.51	3.40	2.62	1.55	.01
Girls (N=18)	7.94	11.66	3.72	2.64	1.71	.01
School 7						
Boys (N=12)	4.50	6.25	1.75	2.35	2.98	.05
Girls (N=31)	6.29	7.80	1.51	2.77	2.84	.01

METROPOLITAN READINESS TEST RESULTS

LISTENING

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	7.68	11.13	3.45	2.97	2.29	.01
Girls (N=20)	7.95	11.10	3.15	2.62	3.52	.01
School 2						
Boys (N=27)	9.74	11.25	1.51	2.53	1.89	.01
Girls (N=18)	10.22	11.83	1.61	2.39	2.06	.01
School 3						
Boys (N=22)	8.72	11.00	2.28	2.09	2.28	.01
Girls (N=16)	9.18	10.81	1.63	2.48	2.50	.05
School 4						
Boys (N=24)	9.50	13.16	3.66	2.22	1.52	.01
Girls (N=20)	9.95	13.05	3.10	2.06	1.60	.01
School 5						
Boys (N=20)	9.65	11.10	1.45	2.53	2.65	.05
Girls (N=19)	8.68	10.21	1.53	2.56	3.13	.05
School 6						
Boys (N=27)	9.92	11.77	1.85	1.99	2.00	.01
Girls (N=18)	10.16	11.22	1.06	2.03	2.36	.05
School 7						
Boys (N=12)	8.25	8.41	0.16	2.17	2.53	NS
Girls (N=31)	8.83	9.67	0.84	2.72	3.11	NS

METROPOLITAN READINESS TEST RESULTS

MATCHING

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	3.24	7.55	4.31	3.52	3.73	.01
Girls (N=20)	2.70	8.20	5.50	3.57	3.66	.01
School 2						
Boys (N=27)	5.74	9.74	4.00	2.36	2.33	.01
Girls (N=18)	6.66	10.27	3.61	3.44	1.70	.01
School 3						
Boys (N=22)	6.22	9.04	2.82	2.38	2.96	.01
Girls (N=16)	8.43	10.81	2.38	3.72	2.34	.01
School 4						
Boys (N=24)	6.62	11.62	5.00	3.07	2.24	.01
Girls (N=20)	7.05	11.65	4.60	3.18	1.63	.01
School 5						
Boys (N=20)	4.55	8.70	4.15	3.18	3.37	.01
Girls (N=19)	5.10	8.68	3.58	2.74	3.01	.01
School 6						
Boys (N=27)	5.81	9.74	3.93	2.55	2.73	.01
Girls (N=18)	7.55	10.77	3.22	2.63	2.15	.01
School 7						
Boys (N=12)	4.16	5.50	1.34	3.24	2.77	NS
Girls (N=31)	5.93	6.64	0.71	3.42	3.27	NS

METROPOLITAN READINESS TEST RESULTS

ALPHABET

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	4.68	9.86	5.18	4.51	5.08	.01
Girls (N=20)	5.15	11.40	6.25	4.31	4.35	.01
School 2						
Boys (N=27)	8.07	12.29	4.22	3.41	3.68	.01
Girls (N=18)	7.00	12.16	5.16	4.40	3.36	.01
School 3						
Boys (N=22)	7.50	12.31	4.81	4.11	3.02	.01
Girls (N=16)	10.62	13.56	2.94	5.31	3.75	.01
School 4						
Boys (N=24)	6.20	13.29	7.09	4.06	3.11	.01
Girls (N=20)	7.35	13.25	5.90	3.93	2.80	.01
School 5						
Boys (N=20)	7.20	10.00	2.80	4.79	5.12	.01
Girls (N=19)	6.94	11.42	4.48	4.97	4.50	.01
School 6						
Boys (N=27)	6.03	11.22	5.19	4.32	3.64	.01
Girls (N=18)	7.83	11.38	3.55	5.33	4.14	.01
School 7						
Boys (N=12)	4.83	8.75	3.92	4.38	4.09	.01
Girls (N=31)	4.93	9.29	4.36	4.39	4.27	.01

METROPOLITAN READINESS TEST RESULTS

NUMBERS

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	8.37	11.00	2.63	4.71	3.99	.01
Girls (N=20)	7.80	12.15	4.35	3.95	3.75	.01
School 2						
Boys (N=27)	11.74	14.03	2.29	4.11	4.79	.01
Girls (N=18)	10.38	13.33	2.95	3.82	3.46	.01
School 3						
Boys (N=22)	10.40	11.13	0.73	4.05	4.43	NS
Girls (N=16)	12.62	13.87	1.25	3.22	4.16	NS
School 4						
Boys (N=24)	11.12	16.95	5.83	3.94	3.47	.01
Girls (N=20)	10.80	15.30	4.50	3.27	2.75	.01
School 5						
Boys (N=20)	8.85	12.60	3.75	6.64	5.89	.01
Girls (N=19)	9.36	12.57	3.21	5.00	5.25	.01
School 6						
Boys (N=27)	9.88	13.85	3.97	4.42	4.41	.01
Girls (N=18)	10.94	13.66	2.72	4.84	3.71	.01
School 7						
Boys (N=12)	6.91	7.16	0.25	4.58	4.06	NS
Girls (N=31)	8.29	8.77	0.48	4.69	3.90	NS

METROPOLITAN READINESS TEST RESULTS

COPYING

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	2.17	6.06	3.89	3.25	3.51	.01
Girls (N=20)	2.45	5.85	3.40	3.48	3.37	.01
School 2						
Boys (N=27)	4.85	7.33	2.48	3.51	3.12	.01
Girls (N=18)	5.16	8.55	3.39	3.05	2.50	.01
School 3						
Boys (N=22)	5.36	7.18	1.82	2.93	2.80	.01
Girls (N=16)	7.62	8.68	1.06	3.51	2.46	NS
School 4						
Boys (N=24)	3.58	7.70	4.12	2.76	2.57	.01
Girls (N=20)	2.60	7.40	4.80	1.63	1.93	.01
School 5						
Boys (N=20)	1.40	4.55	3.15	2.06	3.21	.01
Girls (N=19)	2.05	6.36	4.31	2.27	3.78	.01
School 6						
Boys (N=27)	5.37	9.22	3.85	3.88	2.83	.01
Girls (N=18)	6.22	9.55	3.33	3.29	3.20	.01
School 7						
Boys (N=12)	3.33	3.25	-0.08	2.99	2.73	NS
Girls (N=31)	4.87	5.38	0.51	3.52	3.58	NS

METROPOLITAN READINESS TEST RESULTS

TOTAL SCORE, SUBTESTS 1-6

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	32.58	55.48	22.90	16.87	15.79	.01
Girls (N=20)	32.09	59.09	27.00	17.51	17.33	.01
School 2						
Boys (N=27)	48.70	65.22	16.52	11.37	12.59	.01
Girls (N=18)	47.22	66.83	19.61	14.67	11.45	.01
School 3						
Boys (N=22)	46.40	60.59	14.19	13.11	12.46	.01
Girls (N=16)	56.25	68.50	12.25	15.97	13.64	.01
School 4						
Boys (N=24)	46.00	75.58	29.58	13.56	8.59	.01
Girls (N=20)	45.59	72.39	26.80	10.51	8.10	.01
School 5						
Boys (N=20)	38.70	55.39	16.69	18.19	21.66	.01
Girls (N=19)	40.31	58.00	17.69	15.16	19.95	.01
School 6						
Boys (N=27)	46.11	68.33	22.22	13.98	13.60	.01
Girls (N=18)	50.66	68.27	17.61	15.39	12.18	.01
School 7						
Boys (N=12)	32.16	39.33	7.17	14.67	13.83	.01
Girls (N=31)	38.67	47.58	8.91	16.92	17.03	.01

WIDE RANGE ACHIEVEMENT TEST RESULTS

READING

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	15.20	20.86	5.66	6.28	6.75	.01
Girls (N=20)	16.25	23.54	7.29	5.59	5.54	.01
School 2						
Boys (N=27)	19.40	24.51	5.11	8.46	6.84	.01
Girls (N=18)	18.22	22.27	4.05	6.57	7.61	.01
School 3						
Boys (N=22)	17.40	23.90	6.50	4.78	8.46	.01
Girls (N=16)	24.75	28.81	4.06	15.97	16.17	.05
School 4						
Boys (N=24)	15.50	24.33	8.83	5.86	3.63	.01
Girls (N=20)	15.20	23.79	8.59	6.29	3.25	.01
School 5						
Boys (N=20)	14.90	18.54	3.64	7.26	8.10	.01
Girls (N=19)	15.47	20.42	4.95	6.71	7.34	.01
School 6						
Boys (N=27)	16.07	20.40	4.33	5.84	5.00	.01
Girls (N=18)	18.05	22.77	4.72	7.83	5.83	.01
School 7						
Boys (N=12)	13.50	17.25	3.75	7.19	7.33	.01
Girls (N=31)	14.93	19.32	4.39	5.40	5.44	.01

WIDE RANGE ACHIEVEMENT TEST RESULTS

SPELLING

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	10.62	15.48	4.86	5.55	3.67	.01
Girls (N=20)	12.40	17.34	4.94	5.23	3.96	.01
School 2						
Boys (N=27)	16.85	19.77	2.92	4.92	3.74	.01
Girls (N=18)	17.11	19.88	2.77	3.89	1.40	.01
School 3						
Boys (N=22)	15.40	19.50	4.10	3.01	2.55	.01
Girls (N=16)	19.87	21.93	2.06	6.42	6.13	.05
School 4						
Boys (N=24)	12.25	20.58	8.33	5.47	1.44	.01
Girls (N=20)	12.65	20.14	7.49	3.85	1.38	.01
School 5						
Boys (N=20)	6.00	11.90	5.90	4.49	6.96	.01
Girls (N=19)	7.68	14.89	7.21	4.83	5.68	.01
School 6						
Boys (N=27)	14.22	17.81	3.59	3.92	2.66	.01
Girls (N=18)	17.16	19.77	2.61	4.06	2.64	.01
School 7						
Boys (N=12)	12.00	15.75	3.75	6.10	4.71	.01
Girls (N=31)	15.09	16.61	1.52	5.74	3.75	.05

WIDE RANGE ACHIEVEMENT TEST RESULTS

ARITHMETIC

	MEAN		MEAN DIFFERENCE	S.D.		SIGNIFICANCE LEVEL
	Pre	Post		Pre	Post	
School 1						
Boys (N=29)	12.75	15.62	2.87	4.57	3.44	.01
Girls (N=20)	12.90	15.70	2.80	4.43	3.59	.01
School 2						
Boys (N=27)	15.51	18.25	2.74	3.73	3.57	.01
Girls (N=18)	14.94	17.38	2.44	3.97	3.34	.01
School 3						
Boys (N=22)	15.04	15.95	0.91	3.90	3.88	NS
Girls (N=16)	17.12	18.81	1.69	3.34	4.03	.05
School 4						
Boys (N=24)	15.33	18.75	3.42	1.92	2.23	.01
Girls (N=20)	14.25	18.25	4.00	2.31	2.35	.01
School 5						
Boys (N=20)	12.60	14.65	2.05	5.43	6.28	.05
Girls (N=19)	14.00	16.21	2.21	4.67	4.57	.01
School 6						
Boys (N=27)	13.74	16.18	2.44	3.34	2.68	.01
Girls (N=18)	14.22	17.83	3.61	3.40	3.05	.01
School 7						
Boys (N=12)	11.75	13.50	1.75	4.65	4.27	NS
Girls (N=31)	12.54	14.45	1.91	3.61	3.70	.01

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